#1
The major action of insulin is
A. Conversion of glucose to glycogen
B. Proteolysis
C. Conversion of fatty acids to glucose
D. Glycogenolysis
E. Gluconeogenesis

#2
Insulin inhibits this catabolic process
A. Conversion of protein to aminoacids
B. Conversion of aminoacids to proteins
C. Conversion of glucose to fatty acids
D. Glycogenesis
E. Conversion of fatty acids to triglycerides

#3
One of the main causes of hypoglycaemia is
A. Unaccustomed exercise
B. Stress
C. Weight loss
D. Weight gain
E. Diarrhoea

#4
Beta-blockers in the presence of hypoglycaemia may interact as follows
A. Mask tachycardia
B. Mask bradycardia
C. Increase sweating
D. Upset pulmonary circulation
E. Formation of antibodies and immune complexes

#5
Mechanism of sulphonylureas’ action includes
A. Stimulation beta cells to secrete insulin
B. Stimulating beta cells to synthesise insulin
C. Inhibiting beta cell to secrete insulin
D. Beyond pancreatic activity
E. Inhibiting insulin resistance

#6
Duration of intermediate-acting insulin is
A. 12-18 hours
B. 6-18 hours
C. 12-24 hours
D. 24-36 hours

#7
Duration of long-acting insulin is
A. 18-30 hours  
B. 6-18 hours  
C. 24-36 hours  
D. 36-72 hours

#8
Which assertion is true for long acting insulin?
A. Acts 24-30 hours  
B. Peak of action on 24 hour  
C. Include Sol. Insulin Actrapid  
D. Is not recommended for short-term treatment  
E. Begins its action in 30 min.

#9
Choose insulin without peak of action
A. Glargine  
B. Actrapid  
C. Novorapid  
D. Protaphane  
E. Insulin NPH

#10
Which insulin allows for once-daily dosing?
A. Glargine  
B. Actrapid  
C. Novorapid  
D. Protaphane  
E. Insulin NPH

#11
Insulin is obligatory in the following states, except:
A. Light course of type 2 diabetes mellitus  
B. Pregnancy in patients with type 2 diabetes mellitus  
C. Lactation in patients with type 2 diabetes mellitus  
D. Ketoacidosis in patients with type 2 diabetes mellitus  
E. Surgery in patients with type 2 diabetes mellitus

#12
Which of the following is not correct for oral hypoglycaemic drugs?
A. Stimulation of insulin synthesis  
B. Reduction of carbohydrate absorption  
C. Inhibition of gluconeogenesis  
D. Stimulation of insulin release  
E. Anorexigenic effect

#13
Which drug is considered first-generation sulfonylureas?
A. Chlorpropamide  
B. Glyburide  
C. Glipizide
D. Glimepiride
E. Gliquidone

#14
Choose appropriate caloric needs (kcal/kg) regarding light physical activity
A. 30
B. 35
C. 40
D. 45
E. 50

#15
Interpret GTT. Fasting glucose level is 6.3 mmol/l; 2 hours after glucose ingestion 15.7 mmol/l in plasma.
A. Diabetes mellitus
B. Impairment of carbohydrate tolerance
C. Normal
D. Necessary to repeat test
E. Additional laboratory investigations are indicated

#16
Interpret GTT. Glycemia: I trial – 5,3 mMol/l, II trial – 8,2 mMol/l, III trial – 4,8 mMol/l
A. Normal
B. Impairment of carbohydrate tolerance
C. Diabetes mellitus
D. Necessary to repeat test
E. Necessary to order additional laboratory tests.

#17
Which of the statement given below is correct relatively to GTT?
A. Correlates with determination of potential abnormalities of glucose tolerance
B. Helpful to choose the most appropriate treatment
C. Used to differentiate type of diabetes
D. Indicate stage of diabetes
E. Useful in the seeking of early diabetic complications

#18
Development of type 2 DM is characterised by
A. Overwhelming secretion of β-cells in Langerhans islets
B. Overwhelming secretion of α-cells in Langerhans islets
C. Increased insulin sensitivity
D. Decreased glucose level in plasma
E. Hypercortisolism

#19
What is the most dangerous adverse effect following use of biguanides?
A. Lactic acidosis
B. Hypoglycaemia
C. Diabetic ketoacidosis
D. Hyperosmolality
E. Hyperglycaemia
#20
Which of the following drugs may precipitate cardiovascular complications?
A. Glyburide  
B. Gliclazide  
C. Glimepiride  
D. Acarbose  
E. Nateglinide

#21
Macroangiopathy, as a symptom of diabetes mellitus, most often destroy vessels of:
A. Brain  
B. Lung  
C. Retina  
D. Kidneys  
E. Liver

#22
Criterion for light stage of type 2 diabetes mellitus:
A. Reaching compensation by diet and phytotherapy  
B. Glomerulosclerosis  
C. Glucose in blood – 3.3-5.5 mmol/l  
D. Nonproliferative retinopathy  
E. Reaching compensation by oral drug therapy

#23
Criterion for severe course of type 1 diabetes mellitus
A. *Proliferative diabetic retinopathy  
B. Ketoacidosis  
C. Diarrhoea  
D. Daily insulin dose within 60-70 U  
E. Acanthosis nigricans

#24
Renal complications in patients with diabetes mellitus present with symptoms of:
A. Frequent urinary infection  
B. Increased frequency of renal cancer  
C. Nephrolithiasis  
D. Nephrocystosis  
E. Nephrocele

#25
Which assertion is not correct as regards to angiopathy of lower extremities?
A. Paresthesia  
B. Pain in legs when walking  
C. Decrease of foot temperature  
D. Developing of foot gangrene  
E. Step by step trophic disturbance beginning with fingers
#26
Clinical feature of lung impairment due to diabetes mellitus include all, except:
A. Cancer
B. Recurrent pneumonia
C. Tuberculosis with dump cavern
D. Disseminated tuberculosis
E. Effusion forms of tuberculosis

#27
We can suspect hypoglycaemia after use of:
A. Sulfonamides
B. Coffeinum
C. Cardiac glycosides
D. Penicillin
E. Levothyroxine

#28
Skin impairment which takes place in patients with diabetes mellitus is:
A. Disposition to skin infection
B. Hyperpigmentation
C. Depigmentation
D. Dermatofibrosis
E. Dermatomyoma

#29
Gastrointestinal complications of diabetes include all, except:
A. Gastrorrhagia
B. Diarrhoea
C. Gastroparesis
D. Decreasing of gastric secretion
E. Anorexia

#30
Choose false statement relatively to the nervous system impairment in patients with diabetes mellitus
A. Incidence is rare
B. Often manifest with reduction of tendon reflexes
C. Usually presented as encephalopathy
D. Associated with sensitive lesions on lower extremities
E. “Charcot Joint” spares motor function

#31
Which of the features given below is correct with regard to bone lesion due to diabetes mellitus?
A. Dupuytren contracture
B. Aseptic necrosis of bone
C. Skeletal hyperostosis
D. Articular cartilage calcification
E. Seronegative polyarthritis
#32
Patient K., suffering from diabetes mellitus during the past 8 years, is in coma. The skin is dry, Kussmaul’s respiration, acetone breath is evidenced. What type of coma is it?
A. Ketoacidosis
B. Lactic acidosis
C. Hyperosmolar state
D. Hypoglycaemic coma
E. Brain coma

#33
Thyroid secretes all of the following hormones, except:
A. Thyrotropin
B. Calcitonin
C. Thyroxine
D. Diiodotyrosine
E. Triiodothyronine

#34
Biological role of thyroid hormones embrace all of the following, except
A. Sexual development
B. Growth regulation
C. Tissue differentiation
D. Regulation of metabolic processes
E. Calorigenesis

#35
To estimate thyroid function you should order:
A. Determination of T₃ and T₄ levels in blood
B. Film of sella turcica
C. Determination of ¹³¹I uptake
D. Ultrasonography of thyroid gland
E. Biopsy

#36
Which assertions regarding thyroid synthesis are correct?
A. Disturbed following iodine deficiency
B. Stimulated by corticotropin
C. Depressed by hyperglycaemia
D. T₄ is derived from T₃ on periphery
E. Thyroid synthesis 80% of T₃ and 20% of T₄

#37
Symptoms of hyperthyroidism are, except
A. Weight gain
B. Increased metabolism
C. Tachycardia
D. Exophthalmia
E. Increased heat production

#38
Choose correct statement relatively to the detrimental action of increased thyroid hormone production
A. $T_3$ sensitises the myocardium to the effects of catecholamines
B. $T_3$ and $T_4$ cause hyperprolactinemia
C. Weight gain is related with thyroid overproduction
D. $T_4$ directly induce tachycardia
E. Excessive level of thyroid hormones predisposes to constipation

#39
Choose agent, which inhibits synthesis of thyroid hormones
A. Thiamazole
B. Potassium perchlorate
C. Potassium iodide
D. Iopanoic acid
E. Dexamethasone

#40
Choose agent, which decreases thyroid hormone release
A. Potassium iodide
B. Potassium perchlorate
C. Thiamazole
D. Propylthiouracil
E. Dexamethasone

#41
Choose agent, which diminishes sympathetic reactions in the treatment of Graves’ disease
A. Propranolol
B. Potassium perchlorate
C. Thiamazole
D. Propylthiouracil
E. Potassium iodide

#42
Mean duration of symptomatic treatment of thyrotoxicosis is
A. 2-4 weeks
B. 1-2 weeks
C. 1 week
D. 10-12 days
E. 1-2 months

#43
Choose agent, which inhibits iodide trapping
A. Potassium perchlorate
B. Propranolol
C. Thiamazole
D. Propylthiouracil
E. Potassium iodide

#44
What potential adverse effects may be expected following long-term use of $^{131}$I for the treatment of hyperthyroidism?
A. Hypothyroidism
B. Suppurative thyroiditis
C. Thyroid storm
D. Toxic multinodular goiter
E. Autoimmune thyroiditis

#45
The treatment of Grave’s disease first of all usually include
A. Thionamides
B. Antidepressants
C. Narcotic analgesics
D. Diuretics
E. Sulfonamides

#46
Which states are contraindications for surgical treatment of goiter?
A. Diffuse toxic goiter in decompensation
B. Nodular goiter
C. Toxic goiter in pregnancy
D. Adenoma of thyroid gland
E. Diffuse toxic goiter in compensation

#47
In the moderate stage of thyrotoxicosis which of the following statements is not typical:
A. Retinopathy
B. Tachycardia 100-120/min.
C. $^{131}$I uptake after 4 hours within 30-40%
D. 10-20% of weight loss
E. Low level of TSH

#48
Severe course of thyrotoxicosis may be established, if there is
A. Tachycardia over 120/min.
B. III stage of thyroid enlargement
C. $^{131}$I uptake after 4 hours within 30-40%
D. “Hot” zones on radioisotope scanning
E. High level of TSH

#49
In the pathogenesis of hypothyroidism which of the following is not correct?
A. Low levels of antithyroid antibodies
B. Autoimmune process in thyroid gland
C. Decrease in thyroid hormone synthesis
D. Inadequate secretion of thyrotropin
E. Peripheral resistance to effect of thyroid hormones

#50
Clinical picture of hypothyroidism includes all the following symptoms except
A. Hyperdefecation
B. Drowsiness
C. Slow speech
D. Weight gain
E. Pernicious anaemia
In hypothyroidism the cardiac system presents as follows:
A. Decrease of ECG voltage
B. Increase of ECG voltage
C. High, sharp T wave
D. Persistent tachycardia
E. Relation to the early development of atherosclerosis is absent

Which symptom is common for hypothyroidism?
A. Dry skin
B. Face plethora in the evening
C. Swelling of legs in the morning
D. Paresthesia of hands after light home work
E. Ulcer on crura

Features of hypothyroidism in children include all, except:
A. Wet skin
B. Retardation of sexual development
C. Retardation of physical and intellectual development
D. Retarded bone age
E. Constipation

Appropriate treatment of hypothyroidism includes
A. Using sodium levothyroxine
B. Using triiodothyronine
C. Complex preparations with thyroxine and triiodothyronine
D. Potassium iodide
E. Vitamin D

State adverse effects of thyroid hormone replacement, except
A. Oedema
B. Weight loss
C. Tachycardia
D. Cardiac arrhythmias
E. Restlessness

Primary hypothyroidism develops as a result of
A. Thyroid pathology
B. Pathologies of pituitary gland
C. Hypothalamus disorders
D. Peripheral resistance to effect of thyroid hormones
E. Loss of thyroid hormones during nephritis

Secondary hypothyroidism develops as a result of
A. Pathologies of pituitary gland
B. Thyroid pathology
C. Hypothalamus disorders
D. Peripheral resistance to effect of thyroid hormones
E. Loss of thyroid hormones during nephritis

#58
Laboratory findings show elevation of TSH concentration and increment in T₃ and T₄ level.
State the most appropriate type of hypothyroidism
A. Peripheral hypothyroidism
B. Secondary hypothyroidism
C. Primary hypothyroidism
D. Tertiary hypothyroidism
E. Resultant hypothyroidism following autoimmune thyroiditis

#59
Lack of thyroid hormones in children produces
A. Cretinism
B. Myxedema
C. Hashimoto disease
D. Graves’ disease
E. Autoimmune thyroiditis

#60
What is the dose range of sodium levothyroxine in the treatment of hypothyroidism?
A. 25-200 µg once a day in the morning
B. 25-200 µg once a day in the evening
C. 100-200 µg once a day in the morning
D. 25-100 µg once a day in the evening
E. 25-50 µg once a day in the morning

#61
What points, concerning myxedema coma are correct?
A. Hypothermia is common
B. Feeling warm may provoke myxedema coma
C. Cause is – increase sensitivity to T₃ and T₄ receptors.
D. Hyperfunction of adrenal glands is present
E. Thyroid cancer

#62
All clinical signs are typical for acute thyroiditis except:
A. Vomiting
B. Increasing of body temperature
C. Neck pain
D. Enlargement of regional lymphatic nodules
E. Painful of thyroid gland during palpation

#63
Manifestation of acute thyroiditis upon thyroid palpation include:
A. Pain upon palpation
B. Solid as stone appearance
C. Doughy consistency
D. Palpation of separate nodules
E. Connecting with skin
#64
Treatment of subacute thyroiditis includes:
A. Acetylsalicylic acid
B. Surgery
C. Lugol’s solution
D. β-Adrenergic blockers
E. Radioactive iodine ($^{131}$I)

#65
Which group of drugs is the most suitable in the treatment approach of acute thyroiditis?
A. Antibiotics
B. Acetylsalicylic acid
C. Physiotherapy
D. Corticosteroids
E. β-Adrenergic blockers

#66
Which statement is not correct relatively to Hashimoto thyroiditis?
A. Abscess of thyroid
B. Often occurs in young persons
C. Lymphoid infiltration in thyroid
D. Lymphocytosis
E. Plasmatic infiltration in thyroid

#67
Calcitonin has the following biological effects, except:
A. Inhibition of vitamin D activity
B. Decreased Ca level in blood
C. Decreased phosphorus levels in blood
D. Inhibition of gastrin secretion
E. Inhibits bone resorption

#68
To remove onset of tetany you will order
A. Calcium chloride
B. Prednisolone
C. Benzylpenicillin
D. Potassium citrate
E. Magnesium sulfate

#69
Obesity is not typical for
A. Hyperparathyroidism
B. Hypogonadism
C. Hypothyroidism
D. Lipomatosis
E. Hypercortisolism

#70
Name criterion, which is not indicate hypoparathyroidism
A. Hypercalcemia  
B. Hypocalcemia  
C. Hyperphosphatemia  
D. Low level of parathyroid hormone in blood  
E. Hypocalceuria

#71  
You determine bone pain in patient with recidivation of nephrolithiasis. What should you suspect?  
A. Hyperparathyroidism  
B. Hypoparathyroidism  
C. Paget disease  
D. Myeloma  
E. Anaemia

#72  
In hyperparathyroidism it is not common to find  
A. Persistent hypotension  
B. Muscle weakness  
C. Neuropathy  
D. Recidivation of nephrolithiasis  
E. Pain in bone

#73  
Biological activity of vitamin D includes all of the following, except  
A. Increase of Ca\(^{2+}\) excretion in kidneys  
B. Intensification of Ca\(^{2+}\) absorption in guts  
C. Stimulation of synthesis of bone matrix  
D. Stimulation of calcification matrix in bone  
E. Stimulation of metabolism in muscles

#74  
The anterior part of the hypophysis secretes the following hormones, except  
A. Vasopressin  
B. Somatotropin  
C. Corticotropin  
D. Thyrotropin  
E. Prolactin

#75  
Developing of gigantism is conditioned by:  
A. Overwhelming secretion of GH in adolescence  
B. Overwhelming secretion of GH in old age  
C. Overwhelming secretion of GH in adults  
D. Overwhelming secretion of somatostatin in adults  
E. Inborn sensitivity lack in tissues to GH

#76  
Physiological influence of vasopressin is evidenced by:  
A. Increased water reabsorption in distal tubules  
B. Increased diuresis  
C. Intensification of Na excretion
D. Spasm of uterus
E. Increased glucose reabsorption

#77
What is the main cause of Cushing disease?
A. Hypersecretion of corticotropin
B. Tuberculosis
C. Adrenocortical carcinoma
D. Autoimmune adrenalitis
E. Hypersecretion of catecholamines

#78
Next statement is not common in clinic of hypopituitarism:
A. Hirsutism
B. Hypogonadism
C. Hypothyroidism
D. Hypocorticism
E. Lose flesh

#79
In the treatment of diabetes insipidus it is necessary to prescribe
A. Chlorpropamide
B. ACTH
C. Sulphonamides
D. Furosemide
E. Penicillin

#80
Concerning acromegaly the following is not correct:
A. Hypotension is common
B. Hypersecretion of somatotropin
C. Increased cranial pneumatization
D. Impaired glucose tolerance
E. Thickened cranial bone on film

#81
Examination of the patient with acromegaly reveals all signs given bellow, except:
A. Lagging physical and sexual development
B. Pituitary adenoma
C. Osteoporosis
D. Cardiomegaly
E. Splanchomegaly

#82
What specific sign you may notice in the urine analyses in the patient with diabetes insipidus?
A. Low level of specific gravity
B. High proteinuria
C. Macroscopic hematuria
D. Microscopic hematuria
E. Leukocyturia

#83
Which state, given below, is not allied with short stature?
A. Rheumatoid arthritis
B. Hypothyroidism in children
C. Pituitary nanism
D. Osteochondroplasias
E. Mauriac syndrome

#84
What bone changes are not common in patients with acromegaly?
A. Osteochondrosis
B. Bony disfigurement
C. Osteoporosis
D. Polyostotic fibrous dysplasia
E. Arthropathy

#85
The following hormone is not synthesised by the adrenal cortex:
A. Testosterone
B. Cortisol
C. Aldosterone
D. Dehydroepiandrosterone
E. Androstenedione

#86
Choose factors, which can cause Addison’s disease
A. Tuberculosis
B. Tumour acting on hormone of adrenals
C. Pneumonia
D. Autoimmune thyroiditis
E. Diabetes mellitus

#87
Main clinical signs of acute adrenal failure are:
A. Vomiting, diarrhoea
B. Loud breathing, bradycardia
C. Acetone breath, aggressiveness
D. Polydipsia, polyuria
E. Neck pain, hypertension

#88
The following clinical features of Addison’s disease are all correct, except
A. Diffuse lipomatosis
B. Weight loss
C. Hyperpigmentation
D. Hypotension
E. Dyspepsia

#89
Gastrointestinal affects in patients with Addison’s disease are associated with:
A. Hyposecretion of gastric fluids
B. Constipation
C. Bulimia
D. Hypersecretion of gastric fluids
E. Intestinal colic

#90
Affects on the cardiovascular system in patients with Addison’s disease include all, except:
A. Cardiomegaly
B. Hypotension
C. Bradycardia
D. Decreasing ECG voltage
E. Reduction in the dimensions of heart

#91
Which statement is correct according to low Liddle’s test?
A. In the diagnostic approach to determine hypercortisolism
B. To differentiate Cushing’s syndrome from Cushing’s disease
C. Total 4 mg of dexamethasone per day
D. Total 6 mg of dexamethasone per day
E. 0.5 mg of dexamethasone once a day

#92
Prominent effect of the cardiovascular system in patient with hypercortisolism is:
A. Hypertension
B. Bacterial endocarditis
C. Bundle-branch block
D. Sinus bradycardia
E. Respiratory arrhythmia

#93
Overproduction of androgens is evidenced by
A. Hirsutism
B. Low level of 17-KS in urine
C. Gigantism
D. Cretinism
E. Mental retardation

#94
Temporary lack of physical pubertal development due to the following conditions, except:
A. Isolated gonadotropin deficiency
B. Malnutrition
C. Emotional stress
D. Excessive physical stress
E. Untreated endocrinopathies

#95
Permanent hypothalamic or pituitary gonadotropin deficiency due to the following conditions, except:
A. Untreated endocrinopathies
B. Isolated gonadotropin deficiency
C. Multiple pituitary hormone deficiency
D. Prader-Willi syndrome
E. Kallmann syndrome
Differential diagnosis of ambiguous genitalia includes the following measures, except:
A. Bone age x ray  
B. Physical examination  
C. Contrast urography  
D. Chromosomal evaluation  
E. Stimulation or suppression tests

Contraindications to estrogen therapy in menopause embrace the following, except:
A. Osteoporosis  
B. Estrogen-dependent tumors  
C. Acute liver disease  
D. Thromboembolic disease  
E. Severe hypertension

Indications to estrogen therapy does not include:
A. Thromboembolic disease  
B. Osteoporosis  
C. Disable hot flushes  
D. Severe mucosal atrophy of the GU tract  
E. Certain psychiatric symptoms

Choose the drug, which will not cause gynecomastia
A. Metformin  
B. Cimetidine  
C. Estrogens  
D. Isoniazid  
E. Digitalis preparations

What statement is not correct relatively to the polycystic ovary syndrome?
A. Alopecia is common  
B. Polycystic ovary syndrome presents with elevated androgen levels  
C. Patients with polycystic ovary syndrome have amenorrhea  
D. Hirsutism is common  
E. Obesity is often found

All of the following medications are types of insulin, except:
A. Aspart (Novolog)  
B. Glargine (Lantus)  
C. Lispro (Humalog)  
D. Glulisin (Apidra)  
E. Exenatide (Byetta)

Insulin therapy has all of the following effects, except:
A. Increases concentration of free fatty acids in blood plasma
B. Stimulates glucose uptake by tissues
C. Inhibits lipolysis
D. Activates protein synthesis

#103
Insulin preparations can have the following durations of action:
A. Fast and long
B. Fast, medium and long
C. Polar, non-polar, neutral
D. Very fast, fast, medium and long
E. Subpolar, polar, non-polar

#104
The insulin that does not have a peak of action is:
A. Glulisin (Apidra)
B. Glargine (Lantus)
C. Isophane (Protaphane)
D. Biphasic Insulin N 70/30
E. Aspart (Novolog)

#105. Insulin formulation that has a very fast onset of action is:
A. Glargine (Lantus)
B. Soluble human (Humodar)
C. Lispro (Humalog)
D. Human Isophane (Фармасулін НП)
E. Detemir (Levemir)

#106. Oral hypoglycemic agents include all of the following, except:
A. Sulfonylureas
B. Biguanides
C. Phosphodiesterase inhibitors
D. Thiazolidinediones
E. Alpha-glucosidase inhibitors

#107
Which of the following medications is not one of the sulfonylurea derivatives?
A. Gliclazide
B. Glimepiride
C. Gliquidone
D. Glibenclamide
E. Avandia

108
Which of the following medications belongs to the sulfonylurea derivatives:
A. Nateglinide
B. Pioglitazone
C. Glimepiride
D. Repaglinide
E. Metformin

#109
Please, choose an appropriate therapy for treatment of patients with type II diabetes and obesity:
A. Actrapid and protaphane
B. Metformin and glimepiride
C. Glibenclamide and protaphane
D. Glibenclamide and glibomet
E. Gliclazide and actrapid

#110
Please, choose the best therapy for treatment of diabetes in a patient with coexisting coronary artery disease:
A. Glimepiride
B. Acarbose
C. Rosiglitazone
D. Glibenclamide
E. Metformin

#111
Which side effects are not commonly seen with sulfonylureas?
A. Hypoglycemia
B. Headache
C. Dizziness
D. Diaphoresis
E. Gastrointestinal disturbances

#112
Sulfonylureas are contraindicated in all of the following patients, except:
A. Patients with type I diabetes mellitus
B. Patients with renal insufficiency
C. Patients with liver disease
D. Pregnant patients
E. Patients with arterial hypertension

#113
Metformin is contraindicated in all of the following situations, except:
A. Increased BMI
B. Tendency to develop lactic acidosis
C. Diarrhea and other gastrointestinal disturbances
D. Pregnancy
E. Breast feeding

#114
All of the following are indications for acarbose use, except:
A. Monotherapy for type II diabetes
B. Monotherapy for type I diabetes
C. Combination therapy with insulin for type I diabetes
D. Combination therapy with glimepiride for type II diabetes
E. Combination therapy with insulin for type II diabetes

#115
A. All of the following qualities apply to nateglinide, except:
A. Short half-life
B. Minimal risk for developing hypoglycemia
C. Metabolized by liver
D. Restores early insulin secretion
E. Excreted by kidneys

#116
One of the indications for prescribing nateglinide is:
A. Depletion of pancreatic beta-cells
B. Significant postprandial hyperglycemia
C. Tendency to develop lactic acidosis
D. Resistance to sulfonylureas
E. Insulin resistance

#117
All of the following are true with respect to thiazolidinediones, except:
A. They influence insulin resistance
B. They result in frequent episodes of hypoglycemia
C. They slow down progression of renal disease and development of hypertension.
D. They decrease blood level of free fatty acids
E. They improve metabolism

#118
All of the following are true with respect to alpha-glucosidase inhibitor, except:
A. It inhibits intestinal alpha-glucosidase
B. It decreases enzymatic conversion of oligo- to monosaccharides
C. It lowers postprandial glucose
D. It causes gastrointestinal disturbances.
E. It may cause development of hypertension.

#119
Alpha-glucosidase inhibitors are contraindicated in all of the following cases, except:
A. Diabetic ketoacidosis
A. Liver cirrhosis
B. Hypertension
C. Large abdominal hernias
D. Ulcerative colitis

#120
Activity of alpha-glucosidase inhibitors is decreased by all of the following medications, except:
A. Enzymes
B. Adrenergic blockers
C. Oral contraceptive agents
D. Thiazide diuretics
E. Isoniazid

#121
All of the following medications augment activity of sulfonylureas, except:
A. Anabolic steroids
B. ACE inhibitors
C. Salicylates
D. Loop diuretics
E. Tetracyclines
#122
All of the following augment activity of biguanides, except:
A. MAO inhibitors
B. ACE inhibitors
C. Beta blockers
D. Delayed calcium channel blockers
E. Tetracyclines

#123
What is typically seen with biguanide use?
A. Increased glucose uptake by muscle tissue
A. Decreased basal insulin level
B. Decreased intestinal glucose absorption
C. Gastrointestinal disturbances
D. Decreased lactate level

#124
Which of the following medications does not have hypoglycemic effects (does not augment insulin activity)?
A. Loop diuretics
B. Somatostatin analogues
C. MAO inhibitors
D. ACE inhibitors
E. Beta blockers

#125
Which of the following medications does not have hypoglycemic effects (does not augment insulin activity)?
A. Glicised (Glicinum)
B. Salicylates
C. Sulfanilamide
D. Ethanol
E. Fluoxetine

#126
Which of the following medications does not have hyperglycemic effects (does not decrease insulin actions)?
A. Calcium channel blockers
B. Beta 2 agonists
C. Pentoxifylline
D. H2 histamine receptor blockers
E. Isoniazid

#127
Which of the following medications does not have hyperglycemic effects (does not decrease insulin action)?
A. Calcitonin
B. Morphine sulfate
C. Nicotine
D. Betadin
E. Thyroid hormones
#128
Insulin should be prescribed under all of the following circumstances, except:
A. Status post pancreatectomy
B. Type 2 diabetes with diabetic foot syndrome
C. Type 1 diabetes
D. Gestational diabetes
E. Type 2 diabetes

#129
All of the following are possible side effects of insulin use, except:
A. Hypoglycemic coma
B. Insulin resistance
C. Weight loss
D. Weight gain
E. Lipodystrophy at injection sites

#130
What insulin dose is used for coma secondary to diabetic ketoacidosis?
A. 0.1 U/kg/hr
B. 1 U/kg/hr
C. 80-100 U/24 hours
D. 40-60 U/24 hours
E. 100-200 U/24 hours

#131
Thyroid hormones have all of the following qualities, except:
A. They activate synthesis of RNA and amino acids
B. They increase basal metabolism
C. They inhibit erythropoesis
D. They increase heat production
E. They stimulate insulin breakdown

#132
Thyroid hormones have all of the following qualities, except:
A. They stimulate gluconeogenesis
B. They activate central respiratory center
C. They inhibit pituitary TSH (thyroid stimulating hormone) synthesis
D. They inhibit gluconeogenesis
E. They increase basal metabolism

#133
All of the following are side effects associated with thyroid hormone use, except:
A. Heat intolerance
B. Weight gain
C. Hyperhydrosis
D. Irritability
E. Insomnia

#134
All of the following are side effects associated with thyroid hormone use, except:
A. Weight loss
B. Tachycardia
C. Decreased tendon reflexes
D. Diarrhea
E. Tachyarrythmia

#135
Thyroid medications are contraindicated in all of the following circumstances, except:
A. Chronic heart failure
B. Untreated hyperthyroidism
C. Untreated adrenal insufficiency
D. Acute coronary syndrome
E. Decompensated tachyarrythmia

#136
Thyroid hormone doses should be increased when used concurrently with:
A. Estrogens
B. Clofibrate
C. 5 methylfluorouracil
D. Androgens
E. Tamoxifen

#137
All of the following are true about anti-thyroid medications, except:
A. They inhibit iodine transport into a follicle
B. They alter thyroid hormone synthesis
C. They inhibit release of thyroid hormones
D. They activate synthesis of thyroid peroxidase
E. They destroy thyroid gland follicles

#138
All of the following are side effects associated with thionamide use, except:
A. Arterial hypertension
B. Agranulocytosis
C. Nausea
D. Arthralgia
E. Toxic hepatitis

#139
Activity of thionamide is potentiated by all of the following, except:
A. Anticoagulants
B. Beta blockers
C. Sulfasalazine
D. ACE inhibitors
E. Theophylline

#140
Which of the following endocrine side effects is not typically seen with glucocorticoid use?
A. Development of Cushing syndrome
B. Increased virility in male patients
C. Delayed growth and development of pediatric patients
D. Decreased carbohydrate tolerance
E. Disturbances in ovulatory/menstrual cycles
#141
Which of the following electrolyte/fluid regulation abnormalities is not seen with glucocorticoid use?
A. Sodium retention  
B. Fluid retention  
C. Arterial hypertension  
D. Heart failure  
E. Potassium retention

#142
Which of the gastrointestinal side effects is not usually seen with glucocorticoid use?
A. Peptic ulcer disease  
B. Gastrointestinal bleeding  
C. Hemorrhoids  
D. Pancreatitis  
E. Abdominal bloating

#143
Which of the musculoskeletal side effects is not usually seen with glucocorticoid use?
A. Muscle weakness  
B. Increase in muscle mass  
C. Osteoporosis  
D. Pathologic fractures of long bones  
E. Spine compression fractures

#144
Which of the following is not true with respect to glucocorticoid use?
A. They augment actions of anticoagulants  
B. They augment actions of antiplatelet agents  
C. They augment actions of hypoglycemic agents  
D. They decrease efficacy of hypoglycemic agents  
E. They increase side effects associated with anabolic steroids use.

#145
All of the following doses of iodine containing agents are used to prevent iodine deficiency in the following patients, except:
A. Breastfeeding mothers 200 mcg/24 hours  
B. Pregnant women 200 mcg/24 hours  
C. Teenagers and adults 100-200 mcg/24 hours  
D. Children 50-100 mcg/24 hours  
E. People with intellectual work 300 mcg/24 hours

#146
When glucocorticoids are prescribed using “twice a day” dosing, the doses should be divided in the following manner:
A. Half in the morning and half in the evening  
B. Two thirds in the morning and one third in the afternoon  
C. One third in the morning and two thirds in the evening  
D. Half in the morning and half in the afternoon  
E. One third in the afternoon and two thirds in the evening
You have just diagnosed lactic acidosis and associated coma. What is the first medication that should be administered in this situation?
A. 8.5% Sodium Bicarbonate drip
B. 20-25 U of short-acting insulin IV (intravenous)
C. 40-60 U of short-acting insulin SQ (subcutaneous)
D. 50-10 cc of 40% glucose
E. 400-500 cc of 5% glucose

Which of the following medications has the longest duration of action?
A. Glibenclamide
B. Gliquidone
C. Repaglinide
D. Metformin
E. Gliclazide MR

Which of the anti-hypertensive agents listed below is the agent of choice for treatment of diabetic kidney disease?
A. Rezerpin
B. Adelphane
C. Crystepin
D. Haemiton
E. Lisinopril

Patient developed thyrotoxic crisis. Which of the following medications should be used in this case?
A. Methimazole 50-60 mg may be prescribed through a nasogastric tube (should be crushed first)
B. 40-60 U of short-acting insulin SQ
C. 40-60 cc if 40% glucose solution
D. 8.5% Sodium Bicarbonate drip
E. 400 cc of 0.9% of sodium chloride

Which of the following medications should be used in the case of hypoglycemic coma?
A. 20 U of insulin SQ
B. 40-80-100 cc of 40% glucose solution
C. 20 U of insulin IV
D. 500 cc of 5% glucose solution IV
E. 500 cc of 0.9% of sodium chloride IV

Which of the following medications are used in the treatment of pheochromocytoma?
A. Ganglion blockers
B. Slow calcium channel blockers
C. Alpha blockers
D. Beat blockers
E. Chloditanum
In what trimester should pregnant women with adrenal insufficiency take higher doses of glucocorticoids?
A. First
B. Second
C. Third
D. First and second
E. First and third

Which of the following medications is contraindicated in Addison’s disease?
A. Prednisolone
B. Dexamethasone
C. Fludrocortisone Acetate
D. Adrenocorticotropic hormone
E. Hydrocortisone

Patient developed rhinitis and conjunctivitis while undergoing treatment for diffuse toxic goiter. Which of the following medications could have caused these side effects?
A. Reserpin
B. Propranolol
C. Mercazolilum
D. Lugol's solution
E. Prednisolone

Which of the following medications should be used in a patient with autoimmune thyroiditis who has a large goiter and high titer of anti-thyroid antibodies?
A. Thyroxin
B. Prednisolone
C. Suprastin
D. Verapamil
E. Propranolol

Which of the following side effects can be associated with anti-diuretic hormone (ADH) analogues?
A. Depression
B. Increased irritability
C. Decreased vision
D. Seizures
E. Headache

What is a 24 hour requirement of insulin in an adult person?
A. 10-20 U
B. 20-30 U
C. 30-40 U
D. 40-60 U
E. 100-120 U
#159
Which medication is an agent of choice for treatment of diffuse toxic goiter?
A. Lithium carbonate  
B. Lithium gluconate  
C. Thiamazole  
D. Glucocorticoids  
E. Propranolol

#160
Which of the following medications should be prescribed for a patient with type II diabetes and co-existing chronic pyelonephritis?
A. Glibenclamide  
B. Metformin  
C. Gliquidone  
D. Gliclazide  
E. Rosiglitazone

#161
Indications for prescribing sulfonylurea for diabetes include:
A. Type 1 diabetes  
B. Type 2 diabetes with normal body weight  
C. Type 2 diabetes with increased body weight  
D. Type 2 diabetes with weight loss  
E. Diabetic nephropathy

#162
The following class of medications is the treatment of choice for diabetic nephropathy:
A. Angioprotectors  
B. ACE inhibitors  
C. Non-selective beta blockers  
D. Selective beta blockers  
E. Alpha blockers

#163
Patient has chronic adrenal insufficiency. Which medication should be prescribed first?
A. 25 mg of hydrocortisone IM (intramuscularly)  
B. 500 cc of 5% glucose solution  
C. 4% of sodium bicarbonate 2.5 cc/kg  
D. 5% ascorbic acid solution  
E. 500 cc of 0.9% sodium chloride solution

#164
Which of the following treatments is appropriate for a patient with diffuse toxic goiter during the third trimester of pregnancy?
A. Subtotal thyroid gland resection  
B. Treatment with radioactive iodine  
C. Lugol's solution  
D. Propylthiouracil  
E. Prednisolone
Thyroid hormone analogue overdose can be associated with:
A. Tremors  
B. Increased irritability  
C. Nightsweats  
D. Weight loss  
E. All of the above

Patient with toxic multinodular goiter developed hyperthermia and sore throat while undergoing medical therapy. Which medication could have caused these side effects?
A. Potassium and magnesium aspartate  
B. Propranolol  
C. Mercazolilum  
D. Prednisolone  
E. Dimedrolum

Which of the following medications should be used to stabilize arterial blood pressure in a patient with diabetes and lactic acidosis coma?
A. Phenylephrine  
B. Adrenalin  
C. Glucagon  
D. Hydrocortisone  
E. Cordiaminum

Which of the following medications is most efficient at increasing glucose uptake by peripheral tissues?
A. Pentoxifylline  
B. Chlorpropamide  
C. Nicotinic acid  
D. Metformin  
E. Solcoseryl

Overdose by thyroid hormones during childhood leads to:
A. Delayed sexual development  
B. Early sexual maturation  
C. Heart rhythm abnormalities  
D. Acceleration of growth and bone differentiation  
E. Deceleration of growth and bone differentiation

Overdose by thyroid hormones in elderly patients most commonly leads to:
A. Increased irritability  
B. Atrial fibrilation  
C. Aggression  
D. Psychosis  
E. Psychomotor excitation
#171
Which of the following medications is most appropriate for treatment of arterial hypertension in patients with benign prostatic hypertrophy?
A. Amlodipine
B. Atenolol
C. Diltiazem
D. Doxazosin
E. Losartan

#172
Which of the following combinations should not be used for treatment of hypertension in patients with erectile dysfunction?
A. Dosartan + torasemide
B. Lisinopril + furosemide
C. Doxazosin + tadanafil
D. Nimodipine + sildenafil
E. Metoprolol + spironolactone

#173
Which of the testosterone formulations has the longest duration of action?
A. Testosterone propionate
B. Testosterone enantat
C. Testosterone cypionate
D. Testosterone undecanoat
E. Testosterone phenylproprionat

#174
Which of the following combinations should be used in the setting of hypogonadism with decreased testicular size?
A. Fludrocortisone + testosterone propionate
B. Chorionic gonadotropin + testosterone undecanoat
C. Doxazosin + sildenafil
D. Metoprolol + sildenafil
E. Chorionic gonadotropin + spironolactone

#175
Which of the following medications is the treatment of choice for hyperprolactinemia?
A. Chloditanum
B. Cabergoline
C. Bromocriptine
D. Clomiphen
E. Mesterolone

#176
Which of the following medications does not have anti-androgen properties?
A. Spironolactone
B. Cabergoline
C. Cimetedine
D. Cyproterone
E. Ketoconazole
Which of the following medications is used most frequently for stimulation of ovulation?
A. Cabergoline
B. Fludrocortisone
C. Cyproterone
D. Clomiphen
E. Dydrogesterone

Which of the oral contraceptives listed below has anti-androgen properties?
A. Mersolon
B. Novinet
C. Lindynet
D. Logest
E. Diane 35

Which of the following side effects is not usually seen with overdose of calcitriol (vitamin D3) during treatment of hypoparathyroidism?
A. Hypercalcemia
B. Arterial hypertension
C. Metallic taste
D. Hypocalciuria
E. Myalgia

All of the following are contraindications for prescribing calcium supplements and vitamin D3, except:
A. Hypercalcemia
B. Arterial hypertension
C. Hypercalciuria
D. Sarcoidosis
E. Chronic kidney disease.

Patient C., 32 y/o, was delivered unconscious to the intensive care department. The patient has a medical history of diabetes. Insulin was not found. The breathing is noisy, of Kussmaul’s type; acetone breath, the skin is dry, turgor is lowered, the facial features are sharp, periosteal reflexes are absent, eye ball tone is lowered. Blood contains 1.2 mmol/l of lactic acid (norm - 0.62-1.3 mmol/l), glycemia - 29 mmol/l. What kind of coma can be suspected?
A. Ketoacidotic
B. Brain coma
C. Hyperosmolar
D. Hypochloremic
E. Lactacidemic

Patient T., 26 y/o, is in the intensive care unit with a ketoacidotic coma. Her consciousness is clouded, eye ball tone is lowered, arterial pressure - 90/60, pulse - 130 beats/minute, glycemia - 35 mmol/l, PH - 7.1. The content of ketone bodies is 18 mg %. How would you manage this patients?
A. Introducing 10-20 units of insulin at first by stream infusion and then by drip infusion during 1 hour by 0.05-0.1 units/kg/hour till the termination of ketoacidosis
B. Introducing 500ml 5% glucose solution
C. Introducing 4% sodium carbonate 2.5 ml/kg
D. Introducing 40 – 60 units of insulin hourly
E. Introducing 500 ml 0.9% sodium chloride

#183
Patient M., 36 y/o, was found in the street unconscious. The patient has a medical history of diabetes. There is a smell of alcohol from the mouth. The skin is moist, warm, arterial pressure - 145/90 mm column of mercury, convulsive twitching of muscles. Breathing is shallow, eye ball tone is retained, pupils are dilated, hyperflexion. How would you treat this patients?
A. Intravenous introduction of 40-80-100 ml 40% glucose solution
B. Injecting 20 units of insulin subcutaneously
C. Injecting 20 units of insulin intravenously
D. Injecting 500 ml 5% glucose solution intravenously
E. Injecting 500 ml 0.9% sodium chloride intravenously

#184
Patient B., 18 y/o, is at a pharmacy store, and complains of intensive sweating, trembling hands, numbing of the tip of the tongue, palpitation. It is known that the patient has type 1 diabetes mellitus. His consciousness is clouded; he is disorientated in space and time, aggressive, refuses sweet food. Objectively: tendon and periosteal reflexes are sharply enhanced, positive Babinski's symptom; the skin is moist and warm. Glycemia level on the glucometer is 2.3 mmol/l. There is no odor of acetone from the mouth. What are you going to do in this case?
A. Injecting 20-40 ml (not more than 80 ml) of 40% glucose solution intravenously
B. Injecting 20 units of insulin subcutaneously
C. Injecting 20 units of insulin intravenously
D. Injecting 500 ml 0.9% sodium chloride intravenously
E. Injecting 500 ml 5% glucose solution intravenously

#185
Patient T., 66 y/o, complains of stomach ache, nausea, vomiting and muscle ache. Objectively: evident symptoms of dehydration, Kussmaul’s breathing, arterial pressure – 90/50 mm column of mercury, anuria, temperature – 35.9 ºC, glycemia – 12.9 mmol/l, no acetonuria, blood PH – 6.8, lactic acid content -1.7 mmol/l (norm - 0.62 -1.3 mmol/l). What is your diagnosis?
A. Hyperlactacidemic coma
B. Uremic coma
C. Ketoacidotic coma
D. Brain coma
E. Hyperosmolar coma

#186
Patient M., 57 y/o, complains of nausea, vomiting and muscle ache. Objectively: evident symptoms of dehydration, Kussmaul’s respiration, arterial pressure - 90/50 mm column of mercury, anuria, temperature – 35.9 ºC, glycemia – 12.9 mmol/l, no acetonuria, blood PH – 6.8, lactic acid content -1.7mmol/l (norm - 0.62 -1.3 mmol/l). Hyperlactacidemic coma has been diagnosed. What therapeutic measures should be taken first of all?
* Injecting 8.5% solution of sodium bicarbonate, and 1% solution of methylene blue
Injecting 20-25 units of short-acting insulin intravenously by stream infusion
Injecting 40-60 units of short-acting insulin subcutaneously
Injecting 50-100 ml 40% glucose solution
Injecting 400 -500 ml 5% glucose solution

#187
Patient M., 72 y/o, is in the intensive care unit with the symptoms of dehydration, oliguria, hypothermia and hypoxia. In anamnesis there is a record of type 2 diabetes mellitus, the patient was treated with biguanides. Her condition began to deteriorate after she had a myocardial infarction one month ago. Objectively: the skin is dry; turgor is lowered, arterial pressure – 80/40 mm column of mercury, pulse – 136beats/minute. The breathing is shallow, eye ball tone is lowered. What is your diagnosis?
A. Hyperlactacidemic coma
B. Uremic coma
C. Ketoacidotic coma
D. Brain coma
E. Hyperosmolar coma

#188
A 14-year-old girl was taken to the department of surgery complaining of acute abdominal pain, nausea and vomiting. The patient has been ill for two weeks after she had an acute respiratory viral disease followed by increasing thirst, mouth dryness and polyuria. Objectively: her consciousness is clouded; eye ball tone is lowered, the breathing is deep and noisy, arterial pressure – 100/55, pulse – 136 beats/minute. The abdominal muscles are tense. Glycemia – 21 mmol/l, acetonuria, plasma osmolarity – 200 mosm/l. What is your diagnosis?
A. Ketoacidotic coma with pseudoperitoneal developments
B. Renal form of ketoacidotic coma
C. Encephalopathic form of ketoacidotic coma
D. Hyperosmolar coma
E. Acute diffuse peritonitis

#189
A girl, 13 y/o, was taken to the department of surgery with complaints of acute abdominal pain, nausea and vomiting. The patient has been ill for two weeks after she had an acute respiratory viral disease followed by increasing thirst, mouth dryness and polyuria. Objectively: her consciousness is clouded; eye ball tone is lowered, the breathing is deep and noisy, arterial pressure – 100/55, pulse – 136 beats/minute. The abdominal muscles are tense. Glycemia – 21 mmol/l, acetonuria, plasma osmolarity – 200mosm/l. How would you treat this patient?
A. Introducing 10-20 units of insulin at first by stream infusion and then by drip infusion during 1 hour by 0.05-0.1 units/kg/hour till the termination of ketoacidosis
B. Introducing 500ml 5% glucose solution
C. Introducing 4% sodium carbonate 2.5 ml/kg
D. Introducing 40 – 60 units of insulin hourly
E. Introducing 500 ml 0.9% sodium chloride

#190
Patient Ch., 29 y/o, was taken to the cardiology department. Objectively: he has cold cyanotic extremities, infrequent and noisy respiration, of Kussmaul’s type, alternating with shallow breathing, weak pulse, and arterial pressure – 60/35 mm column of mercury. There are clear signs of vascular collapse – flattened veins, especially in the neck. ECG shows ciliary arrhythmia. Glycemia - 23mmol/l, PH – 7.1. The content of ketone bodies is 23mg%. What is your diagnosis?
A. Cardiovascular form of ketoacidotic coma
B. Renal form of ketoacidotic coma
C. Uremic coma
D. Myocardial infarction
E. Hyperlactacidemic coma

#191
A 68-year-old patient was delivered to the intensive care unit with the suspicion of hyperlactacidemic coma and complaints of severe muscle ache, vomiting drowsiness alternating with stupor, pain in the heart region. Objectively: eye ball tone is lowered, arterial pressure − 100/55, pulse - 136 beats/minute, glycemia - 14 mmol/l, acidosis, blood PH − 7.0, level of lactic acid − 1.9 mmol/l. What are you going to do in this case?
A. Injecting 1% solution of methylene blue
B. Injecting 500ml 5% glucose solution
C. Injecting 0.1% adrenaline solution
D. Introducing 100 mg prednisolone
E. Introducing 500 ml 0.9% sodium chloride

#192
Patient R., 32 y/o, was delivered with complaints of fatigue, decrease of appetite, intensification of pigmentation in the open areas of the body, palms of the hands, cyanosis, losing weight, nausea and vomiting. The symptoms began to aggravate during 1-2 weeks after acute poisoning. Objectively: arterial pressure − 60/30 mm column of mercury, pulse – 140 beats/minute, skin turgor is lowered, the colour is dark with intense pigmentation of the elbows, scars, skin folds on the palms; clearly low levels of sodium and chlorine, high levels of potassium in the blood; glycemia – 4.3 mmol/l. What is your diagnosis?
A. Addisonian crisis
B. Uremic coma
C. Brain coma
D. Acute cardio-vascular insufficiency
E. Hypoglycemic coma

#193
13. Patient R., 32y/o, was delivered with complaints of fatigue, reduced appetite, intensive pigmentation in the open areas of the body, palms of the hands, cyanosis, losing weight, nausea and vomiting. The symptoms began to aggravate during 1-2 weeks after acute poisoning. Objectively: arterial pressure − 60/30 mm column of mercury, pulse – 140 beats/minute, skin turgor is lowered, the colour is dark with intense pigmentation of the elbows, scars, skin folds on the palms; clear hyponatremia, hypochloremia and hyperkalemia; glycemia – 4.3 mmol/l. What is your diagnosis?
A. Intramuscular injection of 25mg hydrocortisone hemi-succinate
B. Injecting 500ml 5% glucose solution
C. Injecting 4% sodium carbonate 2.5 ml/kg
D. Injecting 5% ascorbic acid
E. Introducing 500 ml 0.9% sodium chloride

#194
Patient M., 42 y/o, was taken in with complaints of heavy fatigue, anorexia, severe nausea and vomiting, which does not bring relief of the patient’s condition, dizziness. The symptoms began to increase during 1-2 days after stopping the use of cortisone. Objectively: arterial pressure − 65/20 mm column of mercury, pulse – 148 beats/minute, weak, skin turgor is lowered, the colour is pale, the patient is suffering from shortness of breath, and his respiration is shallow. Hb of blood – 166g/l, clear hyponatremia, hypochloremia and hyperkalemia. Urine: proteinuria, leucocyturia and microhematuria. What is your diagnosis?
A. Acute renal failure
B. Uremic coma
C. Brain coma
D. Acute cardio-vascular insufficiency
E. Hypoglycemic coma

#195
Patient B., 56 y/o, is complaining of weakness, muscle ache, paresthesia in the facial zone, lower extremities, tonic-clonic seizures, breathing difficulty. Anamnesis contains a record of previous subtotal resection of thyroid gland. Objectively: her consciousness is clouded, the skin is dry, cyanotic, “main d’accoucheur” (obstetrician’s hand) convulsions in the upper extremities swallowing function is disturbed, shortness of breath. Heart sounds are dull, rhythmical, arterial pressure – 115/55, pulse – 56 beats/minute. Positive Chvostek’s and Trusso’s symptoms. The level of calcium in the blood – 1.3mmol/l; hyperphosphatemia, hypocalciuria; glycemia – 5.6mmol/l. What is your diagnosis?
A. Hypocalcemic crisis
B. Hypothyroid coma
C. Kidney failure
D. Hyperthyroid coma
E. Brain coma

#196
Patient B., 56 y/o, complains of weakness, muscle ache, paresthesia in the facial zone, lower extremities, tonic-clonic seizures, breathing difficulty. Anamnesis contains a record of previous subtotal resection of thyroid gland. Objectively: her consciousness is clouded, the skin is dry, cyanotic, “main d’accoucheur” (obstetrician’s hand) convulsions in the upper extremities swallowing function is disturbed, shortness of breath. Heart sounds are dull, rhythmical, arterial pressure – 115/55, pulse – 56 beats/minute. Positive Chvostek’s and Trusso’s symptoms. The level of calcium in the blood – 1.3mmol/l; hyperphosphatemia, hypocalciuria; glycemia – 5.6mmol/l. How would you manage this patient?
A. Injecting 10-20ml 10% solution of calcium chloride
B. Injecting 10-15ml 4.5% solution of potassium chloride
C. Introducing 100 mg prednisolone
D. Introducing 1-2ml 0.5% solution of strophanthin
E. Injecting 40-60ml 40% glucose solution

#197
Patient C., 56 y/o, complains of weakness, muscle ache, paresthesia in the facial zone, lower extremities, tonic-clonic seizures, breathing difficulty. Anamnesis contains a record of previous subtotal resection of thyroid gland. Objectively: her consciousness is clouded, the skin is dry, cyanotic, “main d’accoucheur” (obstetrician’s hand) convulsions in the upper extremities swallowing function is disturbed, shortness of breath. Heart sounds are dull, rhythmical, arterial pressure – 115/55, pulse – 56 beats/minute. Positive Chvostek’s and Trusso’s symptoms. The level of calcium in the blood – 1.3mmol/l; hyperphosphatemia, hypocalciuria; glycemia – 5.6mmol/l. What is your diagnosis?
A. Acute hyperparathyroidism
B. Hypothyroid coma
C. Acute hypoparathyroidism
D. Climacteric osteoporosis
E. Hyperlactacidemic coma

#198
Patient K., 58 y/o, complains of weakness, muscle ache, loss of appetite, nausea, vomiting, aching bones, deterioration of memory and cramps. Anamnesis contains a record of the ulcerous disease of stomach, frequent pathological bone fractures. Objectively: the consciousness is clouded, the skin is dry of ashy gray color, present deformity of the vertebrae bodies, "goose-stepping" gait, X-ray shows systemic osteoporosis. Heart sounds are dull, rhythmical, arterial pressure – 160/100, pulse – 56 beats/minute. The level of calcium in the blood – 3.9mmol/l; hypophosphatemia, hyperphosphaturia; glycemia – 4.8mmol/l. What is your diagnosis?
A. Acute hyperparathyroidism
B. Hypothyroid coma
C. Acute hypoparathyroidism
D. Climacteric osteoporosis
E. Hyperlactacidemic coma

#199
Patient L., 58 y/o, complains of weakness, muscle ache, loss of appetite, nausea, vomiting, aching bones, deterioration of memory and cramps. Anamnesis contains a record of the ulcerous
disease of stomach, frequent pathological bone fractures. Objectively: the consciousness is clouded, the skin is dry of ashy gray colour, present deformity of the vertebrae bodies, "goose-stepping" gait, X-ray shows systemic osteoporosis. Heart sounds are dull, rhythmical, arterial pressure – 160/100, pulse – 56 beats/minute. The level of calcium in the blood – 3.9 mmol/l; hypophosphatemia, hyperphosphaturia; glycemia – 4.8 mmol/l. What are you going to do with this patient?
A. Introducing 2-3 l of 0.9% solution of sodium chloride and the potassium phosphate and sodium
B. Introducing 150ml of 4.5% solution of sodium chloride, 100mg prednisolone
C. Introducing 100mg prednisolone, 40g furosemide
D. Introducing 1-2ml 0.5% solution of strophanthin, 100mg prednisolone
E. Introducing 40-60ml of 40% glucose solution, 80g furosemide

#199
A 46-year-old patient was taken to the intensive care unit with the symptoms of dehydration. Anamnesis has a record of type 1 diabetes mellitus and obesity. The patient is known to have taken diuretics for the purpose of loosing weight, which caused increasing thirst, mouth dryness and polyuria. Objectively: her consciousness is clouded, eye ball tone is lowered, respiration is deep and noisy, arterial pressure – 110/60, pulse- 140 beats/minute, glycemia- 45 mmol/l, hyperchloremia, hypernatremia, azotemia, absence of ketonemia and acetonuria, plasma osmolarity – 400 mOsm/l. What is your diagnosis?
A. Hyperosmolar coma
B. Ketoacidotic coma
C. Brain coma
D. Uremic coma
E. Hyperlactacidemic coma

#200
Patient P., 46y/o, was taken to the intensive care unit with the symptoms of dehydration. Anamnesis has a record of type 1 diabetes mellitus and obesity. The patient is known to have taken diuretics for the purpose of loosing weight, which caused increasing thirst, mouth dryness and polyuria. Objectively: her consciousness is clouded, eye ball tone is lowered, respiration is deep and noisy, arterial pressure – 110/60, pulse- 140 beats/minute, glycemia- 45 mmol/l, hyperchloremia, hypernatremia, azotemia, absence of ketonemia and acetonuria, plasma osmolarity – 400 mOsm/l. What is the treatment for this condition?
A. Introducing 4-6 l 0.45% solution of sodium chloride, insulin in proportion 0.05-0.1 units/kg/hour
B. Injecting 500ml 5% glucose solution, 40-60 units
C. Injecting 4% sodium carbonate 2.5 ml/kg, 20-30 units of insulin
D. Introducing 40 – 60 units of insulin hourly, 500ml of 5% glucose solution
E. Introducing 500 ml 0.9% sodium chloride, 40-60 units of insulin

#201
Patient M., 36 y/o, was found unconscious in the street. The patient has a medical history of diabetes mellitus. His breath smells of alcohol, his skin is moist and warm, arterial pressure – 145/90 mm column of mercury, convulsive twitching of muscles, some tonic-clonic seizures. Breathing is shallow, eye ball tone is retained, pupils are dilated, hyperflexion. What is your diagnosis?
A. Hypoglycemic coma
B. Ketoacidotic coma
C. Alcoholic coma
D. Brain coma
E. Hyperlactacidemic coma

#202
Patient C., 32 y/o, complains of excessive weight, shortness of breath, defective memory, performance decrement, feeling cold, emotional retardation. It is known from the case history that the patient is suffering from primary hypothyroidism. Objectively: the skin is dry, waxlike, swollen, periosteal reflexes are lowered, body mass index: 33.5 kg/cubic meter, TSH (thyroid-stimulating hormone) – 25 µU/dL (norm 0.5 -5.0). Obesity is homogenous. Arterial pressure: 150/100 mm column of mercury. What type of obesity can be suspected?
A. Endocrine hypothyroid
B. Endocrine accompanying dysfunctions of hypothalamopituitary system
C. Alimentary constitutional
D. Hypothalamic
E. Androidal with the developed symptoms of metabolic syndrome

#203
Patient T., 26 y/o, complains of excessive body weight, shortness of breath, disruption of the ovarian menstrual cycle, she has been ill since childhood. Family anamnesis is burdened by obesity on the mother’s side. Objectively: BMI – 35.8 kg/cubic meter, dysplastic obesity prevailing in the abdominal area, hypertrichosis. In the abdominal and groin areas there are multiple stretch marks from pearl to burgundy colour. Arterial pressure – 160/100, pulse – 96 beats/minute. What tests should be done to exclude hypercorticism?
A. Small dexamethasone test
B. Large dexamethasone test
C. Test with clonidine/clophelinum
D. Test with cerucal
E. Test with insulin

#204
Patient K., 34 y/o, complains of excessive body weight, shortness of breath, disruption of the ovarian menstrual cycle, she has been ill since childhood. Family anamnesis is burdened by obesity on the mother’s side. Objectively: BMI – 35.8 kg/cubic meter, dysplastic obesity prevailing in the abdominal area, hypertrichosis. In the abdominal and groin areas there are multiple stretch marks from pearl to burgundy colour. Arterial pressure – 160/100, pulse – 96 beats/minute. What is the treatment for this condition?
A. Dietotherapy, sibutramine (influencing the center of hunger and satiation), xenical (blocking GI lipases)
B. Dietotherapy
C. Dietotherapy, thyroxine (thyroid medicines)
D. Dietotherapy, furosemide (diuretic medicines)
E. Dietotherapy, vitamin therapy

#205
25. Patient a., 28 y/o, has been diagnosed with Ishchenko-Cushing’s disease. Which methods of treatment of Ishchenko-Cushing’s disease listed below can be referred to etiological?
A. Unilateral adrenalectomy
B. Bilateral adrenalectomy
C. Gamma ray teletherapy of the pituitary gland area
D. All the above mentioned

#206
Patient P., 45 y/o, has an enlargement of the right lobe of the thyroid gland, in which a round soft and elastic growth can be palpated; the growth is neither fused with the surrounding tissues nor painful. Lymphatic nodes are not palpated. Cyst is suspected. What is the specific of the ultrasound picture of the thyroid cyst?
A. Exogenic density is increased
B. Exogenic density is decreased
C. Exogenic density is without change
D. Exogenic density is nonhomogenous

Patient R., 45 y/o, has an enlargement of the right lobe of the thyroid gland, in which a round soft and elastic growth can be palpated; the growth is neither fused with the surrounding tissues nor painful. Lymphatic nodes are not palpated. Clinical examinations and laboratory tests show no disruption of the thyroid function. What diagnosis can be suspected?
A. Nodular thyroid gland
B. Toxic goiter (Grave’s disease)
C. Autoimmune thyroiditis
D. Hypothyroidism

Damage of what areas of the brain most often causes obesity?
A. Cerebellum
B. Cortex
C. Ventromedial nuclei of the hypothalamus
D. Pituitary gland
E. Subcortical structures

What functional test is most informative in diagnosing diabetes insipidus?
A. With clophelinum
B. With hypothiazid
C. With dexamethasonum
D. By limiting liquid
E. By fast (abstinence from food)

Which medications can be used for functional tests with suppression of adrenocorticotrophic hormone in diagnosing the pathology of adrenal glands?
A. Prednisolone
B. Dexamethasonum
C. Hydrocortisone
D. Deoxycorticosterone acetate
E. Triamcinolone

Which of the medications listed below should be used for pubertal gynecomastia?
A. Testosterone
B. Progestin
C. Glucocorticoids
D. Chorionic gonadotropin
E. Tamoxifen, clomiphene citrate
Which of the listed medications should be prescribed to a diabetic patient for the normalization of the arterial pressure in lactacidemic coma?
A. Mesatonum
B. Adrenaline
C. Glucagon
D. Hydrocortisone
E. Anacardone/ Cordiamidum

Patient M, 72 y/o, is in the intensive care unit with the symptoms of dehydration, oliguria, hypothermia, hypoxemia (hypoxia). In the anamnesis there is a record of type 2 diabetes mellitus treated with biguanides. Her condition began to deteriorate after she had a myocardial infarction one month ago. Objectively: the skin is dry; turgor is lowered, arterial pressure – 80/40 mm column of mercury, pulse – 136 beats/minute. The breathing is shallow, eye ball tone is lowered.
What is your diagnosis?
A. Hyperlactacidemic coma
B. Uremic coma
C. Ketoacidotic coma
D. Brain coma
E. Hyperosmolar coma

Patient N., 70 y/o, is complaining of stomach ache, nausea, vomiting and muscle ache. Objectively: evident symptoms of dehydration, Kussmaul’s breathing, arterial pressure – 95/60 mm column of mercury, anuria, temperature – 35.9 ºC, glycemia – 11.6 mmol/l, acetonuria is not present, blood PH – 6.7, content of lactic acid -1.9 mmol/l (norm - 0.62 -1.3 mmol/l). What is your diagnosis?
A. Hyperlactacidemic coma
B. Uremic coma
C. Ketoacidotic coma
D. Braincoma
E. Hyperosmolar coma

A 5-year-old boy began to show symptoms of gynecomastia. What is your preliminary diagnosis?
A. Klinefelter syndrome
B. Corticosteroma
C. Liver disease
D. Reifenstein’s syndrome
E. Turner’s syndrome

Which of the enumerated products of steroidogenesis are produced mainly in the ovaries?
A. Testosterone
B. Cortisol
C. Dehydroepiandrosterone sulfate
D. Dehydroepiandrosterone
E. Adrenocorticotrophic hormone
Patient B., 18 y/o, is at a pharmacy store, and is complaining of intensive sweating, trembling hands, numbing of the tip of the tongue, palpitation. It is known that the patient has type 1 diabetes mellitus. His consciousness is clouded; he is disorientated in space and time, aggressive, refuses sweet food. Objectively: tendon and periosteal reflexes are sharply enhanced, positive Babinski's symptom; the skin is moist and warm. Glycemia level on the glucometer is 2.3 mmol/l. There is no odor of acetone from the mouth. What is your tactic?
A. Injecting 20-40 ml (not more than 80 ml) of 40% glucose solution intravenously
B. Injecting 20 units of insulin subcutaneously
C. Injecting 20 units of insulin intravenously
D. Injecting 500 ml 0.9% sodium chloride intravenously
E. Injecting 500 ml 5% glucose solution intravenously

#218
When ingesting glucocorticoids twice daily how is the daily dose divided between the ingestions?
A. Half in the morning, half in the evening
B. Two thirds in the morning, one third in the evening
C. One third in the morning, two thirds in the evening
D. Half in the morning, half in the afternoon
E. One third in the afternoon, two thirds in the evening